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Cutting-plane method based on epigraph approximation with discarding the cutting planes

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Abstract

© 2015, Pleiades Publishing, Ltd. Propose a method for solving a mathematical programming problem from the class of cutting methods. In our method, on each step the epigraph of the objective function is embedded into a specifically constructed polyhedral set, and on this set an auxiliary linear function is minimized in order to construct the iteration point. Proposed method does not require that each approximation set is embedded in the previous ones. This feature lets us periodically discard additional constraints that form the approximation sets obtained during the solution process. Prove the method's convergence and discuss possible implementations.

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